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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,558	12/28/2004	Makoto Tsuruta	Q85507	2809
23373 7590 08/06/2008 SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			EXAMINER JOHNSTONE, ADRIENNE C	
			ART UNIT 1791	PAPER NUMBER
			MAIL DATE 08/06/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/519,558

**Applicant(s)**

TSURUTA ET AL.

**Examiner**

Adrienne C. Johnstone

**Art Unit**

1791

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 April 2008.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1, 2 and 4-13 is/are pending in the application.  
4a) Of the above claim(s) 5 and 10-12 is/are withdrawn from consideration.  
5) ☒ Claim(s) 4 is/are allowed.  
6) ☒ Claim(s) 1, 2, 6-9, and 13 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO/S508)  
Paper No(s)/Mail Date \_\_\_\_\_  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Claims 5 and 10-12 stand withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on July 23, 2007 (see paragraph 1 of the Office action mailed October 4, 2007).

### ***Allowable Subject Matter***

2. The indicated allowability of claim 3 (now claim 1) is withdrawn in view of the newly discovered reference(s) to Helfer et al. (5,616,197). Rejections based on the newly cited reference(s) follow.

### ***Claim Rejections - 35 USC § 102***

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claim 13 is rejected under 35 U.S.C. 102(b) as being anticipated by European Patent Application 0 980 770 A2.

See paragraphs 0010-0041: heavy duty pneumatic radial tire 11 has tread portion 15 comprising tread rubber 27 (paragraph 0010), carcass 17 comprising at least one steel cord carcass ply 18, belt 21 comprising at least two cross belt layers 22, 23 of parallel inextensible steel cords 24, 25 inclined 10-30 degrees with respect to the tire equatorial plane S, belt reinforcing member 30 comprising at least one belt reinforcing layer 31 whose steel reinforcing elements 32 extend substantially parallel to the tire equatorial plane S and are bent in a wavy form, and belt protection member 35 comprising at least one belt protection layer 36 whose straight parallel inextensible steel reinforcing elements 37 have an inclination angle with respect to the tire equatorial plane S which is

larger than that of the belt cords 24, 25; the belt protection member may be positioned between the carcass 17 and the belt reinforcing member 30 (paragraph 0029); the inclination angle B of the reinforcing elements 37 in the belt protection member 35 with respect to the tire equatorial plane S can be 90 degrees to maximize the bending rigidity in the widthwise direction of the belt 21 and the belt reinforcing member 30 as a whole (paragraph 0031: largest possible angle is 90 degrees, so the range of not less than 30 degrees is in fact a range of 30-90 degrees).

***Claim Rejections - 35 USC § 103***

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
6. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over European Patent Application 0 980 770 A2.

See paragraph 4 above: it would have been obvious to one of ordinary skill in the art to maximize the bending rigidity in the widthwise direction of the belt 21 and the belt reinforcing member 30 as a whole by setting the inclination angle B of the reinforcing elements 37 in the belt protection member 35 with respect to the tire equatorial plane S at 90 degrees.

7. Claims 1, 2, and 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over European Patent Application 0 980 770 A2 as applied to claim 13 above, and further in view of Helfer et al. (5,616,197).

Helfer et al. teach to make such a heavy duty pneumatic radial tire suitable for Load Range G by setting the inch strength of each of the steel cord cross belt layers at a value of at least 4608 lbs/inch=20.5 kN/25 mm (col. 2 line 38 - col. 4 line 3) with an exemplary inch strength for the steel cord radial carcass layer of 3780 lbs/in=16.8 kN/25 mm (col. 5 line 62 - col. 6 line 30, exemplary ply in Table 10). It would have been obvious to one of ordinary skill in the art to enable the above

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tire to carry load in Load Range G by setting the inch strength of each of the steel cord cross belt layers at a value of at least  $4608 \text{ lbs/inch} = 20.5 \text{ kN/25 mm}$ , which for a 30 degree cord angle results in a 90-degree inch strength of  $4608 \times \cos(60) = 2304 \text{ lbs/in} = 10.2 \text{ kN/25 mm}$ , and using the exemplary inch strength for the steel cord radial carcass layer of  $3780 \text{ lbs/in} = 16.8 \text{ kN/25 mm}$  for a total 90-degree inch strength of  $37.2 \text{ kN/25 mm}$  (greater than the claimed minimum of  $30 \text{ kN/25 mm}$  even without the 90-degree inch strength of the belt protection layer). As to claims 7 and 8, EP '770 Figure 1 clearly depicts the width of belt protection layer 36 within the broadly claimed ranges of not less than 35% of the tread width and not greater than 95% of the tread width.

***Allowable Subject Matter***

8. Claim 4 is allowed.

***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Japanese Patent Application 10-44712 A discloses a tire similar to the claim 13 tire but does not disclose giving the circumferential cords in the cap ply 4 a wavy or zigzag shape.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adrienne C. Johnstone whose telephone number is (571) 272-1218. The examiner can normally be reached on Monday-Friday, 1:00PM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Adrienne C. Johnstone  
Primary Examiner  
Art Unit 1791

Adrienne Johnstone

/Adrienne C. Johnstone/

July 31, 2008